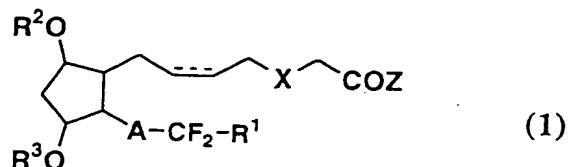


WHAT IS CLAIMED IS:

1. A fluorine-containing prostaglandin derivative of the following formula (1) or a salt thereof:

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wherein A is an ethylene group, a vinylene group, an ethynylene group, $-\text{OCH}_2-$ or $-\text{SCH}_2-$,

A
10 R^1 is a ~~substituted or unsubstituted C_{3-8} alkyl~~ group, a substituted or unsubstituted C_{3-8} alkenyl group, a substituted or unsubstituted C_{3-8} alkynyl group, a substituted or unsubstituted C_{3-8} cycloalkyl group, a substituted or unsubstituted aralkyl group or a substituted or unsubstituted aryloxyalkyl group,
15 each of R^2 and R^3 which are independent of each other, is a hydrogen atom or an acyl group, or forms a single bond together with Z,

20 X is $-\text{CH}_2-$, $-\text{O}-$ or $-\text{S}-$,
Z is $-\text{OR}^4$, $-\text{NHCOR}^5$, $-\text{NSO}_2\text{R}^6$ or $-\text{SR}^7$, or forms a single bond together with R^2 or R^3 ,
each of R^4 , R^5 , R^6 and R^7 which are independent of one another, is a hydrogen atom, an alkyl group, an alkenyl group, an alkynyl group, a cycloalkyl group, an aryl group or an aralkyl group,
25 and a dual line consisting of solid and broken lines is a single bond, a cis-double bond or a trans-double bond.

2. The compound according to Claim 1, wherein A is an ethylene group or a vinylene group.
3. The compound according to Claim 1, wherein X is $-\text{CH}_2-$.
- 5 4. The compound according to Claim 1, wherein both R^2 and R^3 are hydrogen atoms.
5. The compound according to Claim 1, wherein Z is $-\text{OR}^4$.
6. The compound according to Claim 1, wherein R^1 is a substituted or unsubstituted aryloxyalkyl group.
- 10 7. The compound according to Claim 6, wherein R^1 is a phenoxyethyl group, a 3,5-dichlorophenoxyethyl group or a 3-chlorophenoxyethyl group.
- 13 8. The compound according to Claim 1, which is 16-phenoxy-15-deoxy-15,15-difluoro-17,18,19,20-tetranorprostaglandin $\text{F}_{2\alpha}$, 16-(3-chlorophenoxy)-15-deoxy-15,15-difluoro-17,18,19,20-tetranorprostaglandin $\text{F}_{2\alpha}$, 16-phenoxy-15-deoxy-15,15-difluoro-13,14-dihydro-17,18,19,20-tetranorprostaglandin $\text{F}_{2\alpha}$ or an alkyl ester or a salt thereof.
- 20 9. A medicine containing the compound according to Claim 1 as an active ingredient.
- 10 10. The medicine according to Claim 9, which is a preventive or therapeutic medicine for an eye disease.
- 11 11. The medicine according to Claim 10, wherein the eye disease is glaucoma or ocular hypertension.
- 25 12. The medicine according to Claim 9, 10 or 11, wherein A is an ethylene group or a vinylene group.
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13. The medicine according to Claim ~~8~~, ~~10~~ or ~~11~~, wherein
X is -CH₂-.
- 9
14. The medicine according to Claim ~~8~~, ~~10~~ or ~~11~~, wherein
both R² and R³ are hydrogen atoms.
- 10
5 15. The medicine according to Claim ~~8~~, ~~10~~ or ~~11~~, wherein
Z is -OR⁴.
16. The medicine according to Claim ~~9~~, ~~10~~ or ~~11~~, wherein
~~R¹ is a substituted or unsubstituted aryloxyalkyl group.~~
- A
11
10 17. The medicine according to Claim ~~16~~, wherein R¹ is a
phenoxyethyl group, a 3,5-dichlorophenoxyethyl group or
a 3-chlorophenoxyethyl group.
- 12
18. A medicine containing 16-phenoxy-15-deoxy-15,15-
difluoro-17,18,19,20-tetranorprostaglandin F_{2α}, 16-(3-
chlorophenoxy)-15-deoxy-15,15-difluoro-17,18,19,20-
15 tetranorprostaglandin F_{2α}, 16-phenoxy-15-deoxy-15,15-
difluoro-13,14-dihydro-17,18,19,20-tetranorprostaglandin
F_{2α} or an alkyl ester or salt thereof as an active
ingredient.
- 13
19. The medicine according to Claim ~~18~~, which is a
20 preventive or therapeutic medicine for an eye disease.
- 14
20. The medicine according to Claim ~~19~~, wherein the eye
disease is glaucoma or ocular hypertension.

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